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Toward Understanding Customer Preference Factors in Agile - A Research Plan

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ABSTRACT

Our research plan is designed to discover factors that influence, positively or negatively, customer's preference for agile software development. We will employ qualitative research techniques, specifically grounded theory, as our research method. Customers are an essential component of the agile approach and merit additional study on their preference for software projects developed using agile techniques. The results of our research will present emergent constructs that influence customer preference for agile development. These constructs can then be analyzed using quantitative techniques to assess their validity and understand their relationships.

Keywords

Agile, software, preference, grounded theory.

INTRODUCTION

The use of agile development methods (ADM) is becoming ubiquitous in a world demanding support for constant change and innovation. The 2017 VersionOne State of Agile™ survey shows that 94% of respondents' organizations practice some degree of agile and that 98% of their organizations realized success from agile projects (VersionOne, 2017). The report also indicates that 60% have less than half of their teams practicing agile, and 80% are 'still maturing' in their use of agile. This indicates that while Agile is widely accepted, there is still significant opportunity for further growth, maturity and understanding.

One focus of ADM is on the skills and talents of the people involved (Cockburn & Highsmith, 2001). The team is more engaged when all involved have input and meet regularly (Bishop, Deokar, & Sarnikar, 2016). Customers are an important part of the team. A collaborative relationship between the customer, the developer, and project leadership encourages process satisfaction (Bishop, Rowland, & Noteboom, 2018).

Agile development is defined as an excellent fit when circumstances require that the project is ambitious, there is a need for modifying deliverables with frequent input from the customer, and where rapid delivery is necessary (Conforto, Salum, Amaral, da Silva, & de Almeida, 2014). In addition, ADM lends itself to iterative and incremental development, customer collaboration, and frequent delivery (Cho, 2008).

The customer is a key player in ADM, and the goal of this study is to reveal customer perceptions, participation, and preference for agile development methods. We will look at what influences these perceptions as well as how these perceptions influence a project.

This article first presents a literature review. Next, it describes the methodology to investigate the customers' preferences for ADM. It concludes with implications for research and practice.

LITERATURE REVIEW

Agile software development emerged in the late 1990s. The key reasons for agile were to address customer requirements, technology evolution, changing business environments, a timely solution, and to create an economically sound solution (Drury-Grogan, Conboy, & Acton, 2017; Turk, France, & Rumpe, 2014). Agile has been described as 'the business of innovation' (Highsmith & Cockburn, 2001), relying on collaboration and the creativity of the team (K. Beck, et al., 2001; Schwaber & Beedle, 2002). The customer plays a key role on the team through continuous connection allowing the customer to be more involved in the decision making (K. Beck, 2000; Farell, Narang, Kapitan, & Webber, 2002). Customer satisfaction, quality and performance are high priorities in ADM (Alahyari, Svensson, & Gorschek, 2017; Cockburn & Highsmith, 2001). Customers define the solution in agile software development, finance the project, and are often the users of the system.

Customers help developers understand the needed requirements of a project. They help developers adjust priorities and examine alternative paths. This only happens when the customer and the development team are working together. The customer, the sponsor, the users, and the developers are on the agile team (Beer, 2017; Highsmith & Cockburn, 2001). This collaboration allows each expertise to have input and produce satisfying results. Customers that are communicated with regularly can influence a timely development of the features needed and are more satisfied.

Different aspects of customer involvement have been discussed in the literature on ADM, including customer satisfaction, customer role, and collaboration. Customers appreciate the opportunities to get and give feedback (Dyba & Dingsoyr, 2009; Mann & Maurer, 2005). Customers have increased satisfaction when they have control over the development process (Humphrey, 2005) and when they perceive that they have maximized value (Alahyari et al., 2017). Value includes financial as well as the quality of the development (Khurum, Gorschek, & Wilson, 2013). Collaboration increases satisfaction and team performance. In ADM, customer satisfaction drives the development choices and proves to be crucial to the project. Recent research revealed that the customers' experience drives decisions and that "anecdotal rather than objective customer satisfaction drives team satisfaction with decisions" (Drury-Grogan et al., 2017).

Studies also indicate a negative perception of customers' involvement. On-site customer's role can be "stressful and unsustainable for long periods" (Dyba & Dingsoyr, 2009). Melo et al. conducted research on the agile team's perceptions of productivity. Interacting with customers was proven to have a negative effect on productivity, due to customers not feeling they were considered a part of the team (Melo, Cruzes, Kon, & Conradi, 2011).

Research in relation to customers and agile, although growing, has not comprehensibly addressed the elements that drive preference for agile from the customer perspective. Our research question is: What are the factors that drive preference, both for and against, agile development methods from a customer perspective?

METHODOLOGY

Our research question is focused on discovery and forming theory in relation to customer preference of ADM. Given that context, it is appropriate to employ qualitative research methods, and specifically Grounded (Charmaz, 2006). Grounded Theory (GT) is well suited for investigating social phenomena (Parry, 1998), indicating that it is a good fit for empirically understanding the interactions between customers and software development teams using ADM. GT is designed to develop substantive theory, which aligns well with our intentions (Glaser & Strauss, 1967).

Our plan is to collect data through semi-structured interviews with customers who have been involved with agile development projects. While collecting the data we will using grounded theory coding techniques to develop categories and themes emerging from the data (Corbin & Strauss, 2008).

IMPLICATIONS FOR RESEARCH AND PRACTICE

Our research is focused on understanding preference in relation to agile software development methods. To date we have investigated agile preference from the software developer perspective (Bishop et al., 2016) and from a managerial perspective (Bishop et al., 2018). With this study, we will add to the body of knowledge on preference for agile methods extending it to include the customer's perspective on preference factors.

Investigating customer's drivers on agile aligns well with the values and principles found in the Agile Manifesto providing empirical data and formative theory on these claims (K. Beck, et al., 2001). One of the four Agile Manifesto principles emphasizes customer involvement, "customer collaboration over contract negotiation." Also, the first principle involves satisfying the customer, and the second principle involves harnessing "change for the customer's … advantage." Customers are fundamental to the agile proposition, consequently investigating the driving factors of preference for agile can help practitioners emphasize critical practices that increase customer satisfaction and downplay those factors the decrease preference for agile.

Once the study is completed and factors identified a quantitative study can be performed to understand the validity of the factors and the relationship between the factors.

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